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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/961,287	09/25/2001	Tatsuo Uchida	2224-0189P	5315

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EXAMINER

RUDE, TIMOTHY L.

ART UNIT PAPER NUMBER

2871

DATE MAILED: 01/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/961,287

Examiner

Timothy L Rude

Applicant(s)

UCHIDA ET AL

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--- The MAILING DATE of this communication appears on the cover sheet with the correspondence address ---

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 04 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 7-10 and 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed
- 6) ☐ Claim(s) 1-6 and 11-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 25 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau of the WIPO.

a) The translation of the foreign language provisional application has been received

- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121

Attachment(s)

- ☐ _____
- ☐ _____
- ☐ _____

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DETAILED ACTION

Election/Restrictions

1. Claims 7-10 and 14 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected group, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 5.

Applicant's election with traverse of 04 December 2002 in Paper No. 5 is acknowledged. The traversal is on the ground(s) that claims 7 and 14 of Group I and claims 8-10 of Group III are ultimately dependent upon independent claim 1 of Group II. This is not found persuasive because claims 7 and 8 are independent claims that relate to claim 1 as process of making and combination/subcombination respectively.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 103

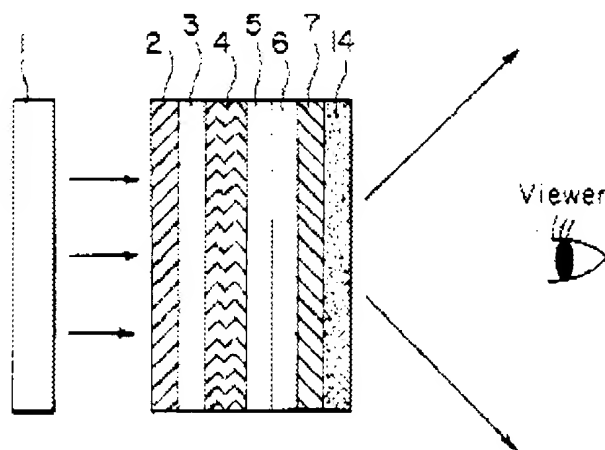
The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains

Claims 7-10 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honda et al (Honda) USPAT 5,851,700.

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As to claim 1, Honda teaches nine examples of one embodiment of a light-scattering sheet comprising a light-scattering layer which comprises a plurality of resins (col. 3, lines 1-22) varying in refractive index (col. 3, lines 5-8) and scatters an incident light isotropically (specified haze is not anisotropic, col. 4, lines 29-43), and has a domain gap of 1 to 20 μm (overlaps Applicant's phase separation structure having an average interphase distance of 3 to 15 μm).

**FIG. 1**

Honda discloses that the light-scattering layer preferably has a haze between 30% and 85% which equates to a ratio of a linearly transmitted light to an incident light of 15 to 70 % (overlaps Applicant's range of 0.1 to 15 %) (col. 4, lines 29-44), to widen

Honda is evidence that ordinary workers in the art of liquid crystals would find the

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incident light of 15% or less to widen the viewing angle, decrease the shadow area, and reduce Moiré effects which results in better display performance.

Therefore, it would have been obvious to one having ordinary skill in the art of liquid crystals at the time the invention was made to use a layer with a ratio of a linearly transmitted light to an incident light of 15% or less to widen the viewing angle, decrease the shadow area, and reduce Moiré effects which results in better display performance.

As to claims 2-4, Honda teaches a light-scattering sheet with the structure of claim 1 and having a thickness of 50 to 300 μm (overlaps Applicant's Examples, specification pages 44-48) wherein the light-scattering layer would express a light-scattering intensity profile having substantially flat area at ranges of scattering angle θ within the range 3 to 25° from a scattering center as a function of its structure, per Applicant's enabling disclosure.

As to claim 5, Honda teaches a light-scattering sheet according to Claim 1, wherein the light-scattering layer has a phase separation structure composed of a plurality of resins varying in refractive index, and has a structure formed by irradiating UV light (col. 4, lines 5-8) (Applicant's spinodal decomposition. per specification page 31, lines 14-25) which would result in a bicontinuous phase or an intermediate structure

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As to claim 6, Honda teaches his one embodiment of a light-scattering sheet is for a LCD (Title) broadly, which includes transmissive and reflective LCDs comprising transparent or reflective supports with the light-scattering layer formed on at least one side of the support.

As to claim 11, Honda provides numerous examples of applicable resins (col. 3, lines 9-22) and further teaches that a light-scattering layer may comprise any photopolymerizable monomers or oligomers (col. 3, lines 23-28) so long as they have refractive indexes which differ from each other by 0.01 or larger (Applicant's a first resin selected from the group consisting of a cellulose derivative and a (meth)acrylic resin, and a second resin selected from the group consisting of a styrenic resin, an alicyclic olefinic resin, a polycarbonate-series resin and a polyester-series resin).

As to claim 12 Honda teaches a light-scattering sheet wherein the weight ratio of the first resin to the second resin (col. 10, lines 40-43 and lines 59-62) is 9:1 to 1:9 (Applicant's 10/90 to 90/10).

As to claim 13, Honda teaches a light-scattering sheet as claimed above wherein the fluctuation width of light-scattering intensity in the flat area would be 0 to 20 when a

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Conclusion


3. References cited but not applied are relevant to the instant Application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy L Rude whose telephone number is (703) 305-0418. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H Kim can be reached on (703) 305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4900.

Timothy L Rude
Examiner
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TLR
January 9, 2003

